DOCUMENT RESUME

ED 280 363 HE 020 179

TITLE Health Services Funding Proposal and Report on Differential Use Made of a College Health Center by Faculty and Students. [Final Report].
INSTITUTION Eastern Michigan Univ., Ypsilanti.
PUB DATE Jul 83
NOTE 67p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Delivery Systems; Fees; Higher Education; Institutional Research; *Needs Assessment; Program Costs; Program Evaluation; *School Health Services; State Universities; *Use Studies
IDENTIFIERS *Eastern Michigan University

ABSTRACT

Eastern Michigan University's health center program and its use by faculty and students were assessed by a select group of faculty, staff, and students. Focus was on determining an acceptable level of service, insuring an accessible program, and achieving an equitable distribution of student fees. To determine an acceptable level of service, attention was directed to competing college health services, college student health care needs and service delivery systems, expressed demand for service, and the ability of the local health care network to meet demand. Criteria for assessing alternative ways to meet student needs were developed and applied to available options, and common treatment alternatives were evaluated. To make sure that those who benefit from the service support it financially, patterns of student use of health services were assessed and compared with known enrollment patterns. A framework for distributing costs was also developed. It was found that the health center program: meets the expectations of prospective students and their parents; meets students' specific health care needs; meets expressed demand levels for service; and relates needs to the availability of health care in the community. Recommendations include: user fees should be maintained for physician visits and related services; and a fee should be charged to all students to support the health center. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED280363

EASTERN MICHIGAN UNIVERSITY

HEALTH SERVICES FUNDING PROPOSAL

AND

REPORT ON DIFFERENTIAL USE MADE

OF A

COLLEGE HEALTH CENTER

BY

FACULTY AND STUDENTS

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
John C Burkhart
Eastern Mich Univ
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

JULY 1983

HE020129

BEST COPY AVAILABLE

A select work group of faculty, staff, and students was formed in May, 1983 to recommend to the Eastern Michigan University administration a fair approach for funding its health service program. The group included economists, health planning experts, and technical staff from the University and was charged with developing a resource plan which would insure:

An *ACCEPTABLE* level of service
A program *ACCESSIBLE* to students
An *EQUITABLE* distribution of costs

The work group submits this final report of its findings and recommendations.

Health Services Funding Work Group

MEMBERSHIP

George McCloud, Chair
Associate Dean, Graduate School

Mary Brooks
Assistant to the Vice President for Business and Finance

John C. Burkhardt
Director of University Health Services

Michael Long
Associate Professor, Health Administration

Kevin McCormick
Student

Walter Miller
Director, McKenny Union/University Conferences

Paul Monoidis
Operations Research Analyst, University Planning and Analysis

Christopher Osgood
Student

Moshen Sharifi
Associate Professor, Department of Accounting and Finance

Susan Valentine
Assistant Professor, Department of Nursing Education

TABLE OF CONTENTS

		Page
Section 1.0	Summary of Findings and Recommendations	1
Section 2.0	Determining an ACCEPTABLE Program	5
Section 3.0	Insuring an ACCESSIBLE Program	10
Section 4.0	Achieving an EQUITABLE Distribution of Costs	16
Appendix	Supporting Tables and Documents	

Eastern Michigan University

Health Services Funding Work Group

Final Report

Summary of Findings

The current Health Center program provides an ACCEPTABLE level of service, as judged by four criteria:

-meets the expectations of prospective students and their parents;

-meets specific health care needs of college students;

-meets expressed demand levels for service; and

-relates needs to the availability of health care in the community.

A full report of the Work Group's findings on ACCEPTABILITY can be found in Section 2.0.

The health center program's ACCESSIBILITY is maintained by considering four recognized barriers to health care:

-the distance from patient to provider;

-the availability of appointments;

-the cost of the initial visit; and

-the availability of continuing care.

The Work Group found that the current program optimizes these considerations for students and the University. Specific structural advantages, owing to a narrowly defined clientele, allow for competitive efficiencies and cost savings.

A full report of the Work Group's findings on **ACCESSIBILITY** can be found in Section 3.0.

The **EQUITABILITY** of assessing a student fee for the health center program is based on a study of health center use. The central findings of that study are:

-student use of the program varies with the number of credit hours attempted;

-the relationship between credit hours and use is practically linear from one credit hour to approximately twelve credit hours, where use levels off; and

-repeat use patterns (subsequent visits to the center following the first visit) are identical for all students, regardless of the number of credit hours attempted or graduate/undergraduate status.

See Table 1.1 A

A full report of the Work Group's findings on **EQUITABILITY** can be found in Section 4.0.

Recommendations

1.1 That the program be maintained at the 1982/83 operating level of service.

1.2 That user fees be maintained for physician visits and related services.

1.3 That the user fees for ancillary areas, such as the laboratory, pharmacy, and specialty clinics be adjusted as needed to respond to costs and market conditions.

1.4 That a fee be charged to all students to support the health center.

1.5 That the fee vary directly by the number of credit hours attempted, with a ceiling amount placed on the fee to coincide with full participation at twelve credits.

See Tables 1.1 B & C

1.6 That, beginning with the Fall 1983 semester, the fee will be $1.25 per credit hour.

1.7 That the fee not be charged for off-campus courses.

1.8 That consideration be given in the future to making the fee a part of a comprehensive student services allocation.

These recommendations reflect the findings of the Work Group after a thorough analysis of the health center program and its utilization by students. The Work Group also wishes to acknowledge the outstanding technical assistance and support of the health center staff during its deliberations.

Supporting Tables and Documents are found at the back of the report.

Determining an *ACCEPTABLE* Level of Service

Acceptability is based upon 1) expectations for service held by prospective students and their parents, and 2) the specific needs of college students for health care, and 3) the ability of the area health care network to satisfactorily meet demand.

Section	Method of Analysis	Support Documents
2.1	A comparative review of competing university health services.	2.1.1. (A, B, C)
2.2	An analysis of college student health care needs and the delivery systems designed to meet them	
2.3	A determination of expressed demand levels for service.	2.3.1; 2.3.3
2.4	Consideration of the local health care network and its ability to meet demand.	

The need for any support program on the college campus must be justified on the basis of two criteria. First, does the program promote the goals of the University in a meaningful way? Second, does the program serve an important need that cannot be provided for in some more effective way?

2.1 Relationship to University Goals

2.1.1 Enrollment

The provision of basic health care is functionally related to University goals. Prospective students and their parents choose between institutions in part on the presence and quality of student support services. An analysis of our most direct competing institutions indicates that, while the configuration of programs differs, each offers a comparable profile of services and each includes their health service among the enhancements they offer to prospective students.

See Tables 2.1.1 A, B, & C

2.1.2 Retention

Collegiate health care is essential to the retention of students. National research on college attrition cites "health problems" among those often given for dropping out of college. For specific groups of students, particularly women, handicapped students, and foreign students, the availability of adequate health care can be a determining factor in college persistence.

2.2 Meeting Student Needs

While the diversity among college students increases, it can still be said that college students have three basic health care needs: short-term episodic care, health consultation and referral, specialty care in specific areas. These three demands dictate the service configuration of the modern college health service:

Supporting Tables and Documents are found at the back of the report.

NEED	MODALITY	DELIVERY PRACTITIONERS	DELIVERY SUPPORT
Episodic Care	Triage, Diagnosis, and Treatment	Nurses, Physicians	Pharmacy Laboratory Radiology
Consultation and Referral	Evaluation, Advocacy, and Follow-up	Nurses, Physicians	None Required
Specialty Care	Prevention and Treatment	Gynecology and Dermatology Specialists	Laboratory Pharmacy

Since the needs of college students are relatively narrow, they can be met most economically through a program that is intentionally focused and constrained. This is a significant departure from the programs of only a few years ago which provided in-patient care and a surfeit of seldom used services. It also constitutes a structural advantage over other health care providers who are forced to support programs which are positioned to appeal to a more diverse clientele.

The current health care program has been shaped by demand:

-Approximately 25,000 patients visits are made to the health service each year.

-A typical student visit involves 5 or more clinical contacts within the center (with nurses, physicians, technicians, pharmacists, and specialists) and 75% of students who use the center once become regular clients.

-Students report higher satisfaction with the EMU program than do students at other institutions and satisfaction here is higher than it has been in several years.

2.3 Achieving Student/Parent Satisfaction

2.3.1 In Fall 1982, a comprehensive investigation was conducted into student satisfaction with University services. The survey instrument was developed by the American College Testing Service to compare student satisfaction ratings with national norms for services at other colleges and universities. Our health service received a better than average rating when compared with similar programs across the country. This survey included larger programs and programs financed with sizable general fund support.

See Table 2.3.1

2.3.2 The E.M.U. Student Government posed a referendum question as part of their 1981 election process. The results, as reported to the Eastern Echo:

> "Would you like to see health services expanded, remain same, or reduced?"
>
> Increased - 49.3%
> Remain Same - 38.59%
> Reduced - 12.2%

Such a response was far superior to the general impression held of the health center and its services only a few years ago. It seems to indicate that, generally, we have found the mark at which service level and affordability intersect.

2.3.3 A unique contributing factor in the successful assessment of student need has been the influence of a Health Services Advisory Board. This student group, formed four years ago, has played a significant role in setting direction and providing input for the program.

See Table 2.3.3

In October 1982, the student board developed a list of Planning Assumptions defining an acceptable level of health care on Eastern's campus. That document was used throughout the entire planning process as an indicator of student preferences.

2.4 Assessment of the Community Health Care Network

2.4.1 Eastern now has a program that responds to the specific needs of our clientele and one that fits into the health care network in this area.

Southeastern Michigan has the highest health care cost index of any area in the country. Physician fees and hospital costs in Washtenaw County are 83

pecent higher than in Detroit. Much of the problem stems from the acutely top-heavy distribution of tertiary level health care facilities. Studies at the University of Michigan School of Public Health point to a severe shortage of primary care in Ypsilanti and Ann Arbor.

2.4.2 The financial burden of a simple illness in Ypsilanti, whether based on care at a physician's office, a clinic, or a hospital can be devastating to a student budget. The highest proportion of students covered by health insurance at EMU was 50% in 1980. We believe that the long-term trend of increased coverage has been temporarily reversed by economic and labor conditions in Michigan. Based on these factors, we have determined that services provided to students at our health center must be of a primary care nature and financially accessible. Furthermore, they should not duplicate the adequate sources of acute level care available in the county.

2.4.3 A series of discussions has been initiated with representatives of Catherine McCauley Health Center to determine what aspects of our health care program could be provided by their facilities. Most services could be provided (certain aspects of gynecological care could not be). The cost for providing such care, given the current structural constraints on their program would be prohibitive. Other accessibility criteria (availability of appointments, follow-up care) are also problems that must be dealt with.

2.5 Conclusion

Setting an acceptable service level requires an understanding of the needs students have for health care, the expectations held for service by parents and prospective students, and the ability of the area community to meet the demand.

We find that student needs dictate a focused program. Eastern's current program meets client expectations and compares well with services offered at other Michigan universities. In the following section, we will compare area health care alternatives and their accessibility to Eastern students.

Insuring an *ACCESSIBLE* Program

Accessibility is achieved when barriers to care (location, cost and availability) are minimized to an optimal degree.

Section	Method of Analysis	Support Documents
3.1	Establish a standard set of criteria for assessing alternatives for meeting student need.	3.1 (A, B)
3.1.1—3.1.4	Apply criteria to available options and evaluate common treatment alternatives.	3.1.3 (A, B, C)
3.3	Set parameters for the two most flexible variables: cost and average length of queue.	3.3

Once basic levels for service are determined, options for meeting demand can be explored. At the point of seeking care, the relevant referent group for the student is not that of other university health centers but that of area health care alternatives available to serve students. The Ypsilanti-Ann Arbor area is fortunate to have an outstanding network of health care with considerable concentration in acute emergency and tertiary care. Health planners point, however, to a shortage of primary care providers within the county. No primary care settings exist with the explicit design of serving the needs of college students other than those offered by the major universities in the area.

3.1 Health Behavior and Criteria for Determining Accessibility

The body of research which deals with health behavior from a consumer perspective identifies four criteria for assessing accessibility of care:

-Distance
-Initial Availability
-Cost
-Availability of Continuing Care

A wide range of alternatives, institutional, public, and private were compared with respect to the above criteria. Findings are reported by each of the four criteria and cost comparisons constructed for common episodic experiences.

See Tables 3.1 A & B

3.1.1 Distance

While Snow Health Center is obviously most convenient for students attending classes on the campus, ample alternative care exists in a radius of 2-8 miles. For many students who commute to campus or have cars, such a distance is not unreasonable. For others, without access to transportation, even such a short distance creates a barrier to health care. Using providers without on-site diagnostic support would probably necessitate multiple visits.

3.1.2 Availability of Initial Care

Area alternatives seem to fall into two categories: a) area clinics and b) private physicians. Institutional settings (such as Catherine McCauley Health Center) provide relatively greater initial access. At the Walk-In Clinic, students could arrive at the start of the four-hour block reserved for care and wait for service. Regardless of demand, only 35 patients are seen per night. At the hospital Academic Medicine Clinic, patients are seen after a wait of one to two weeks. A typical

ambulatory care clinic is accessible after one or two days but hours are limited and walk-ins discouraged. Private physicians vary considerably in the initial wait for service. The ability of any private physician to increase volume is markedly constrained by the availability of physician time.

3.1.3 Cost of Initial Visit

There is a wide range of cost for similar services in the area. The structural disadvantage of competing to provide comprehensive care to a heterogeneous clientele is most evident in the pricing of services. Consequently, comparable care, even after a semester fee is considered, is between 10% and 125% higher at competing clinics.

Pricing comparisons are most valuable when considered in terms of common episodic situations. This analysis begins with setting an accepted diagnosis/treatment protocol and building a cost model for alternative providers. The three examples provided (care for a sore throat, simple bronchitis, and newly discovered hypertension) reveal a startling difference in costs for identical medical procedures.

See Tables 3.1.3 A, B, & C

3.1.4 Availability of Continuing Care

Certain providers are not structured to provide necessary follow-up on initial visits. The classic example of such a service is the an emergency room. All aspects of such a service are geared to provide expert care for acute, serious injury or illness. Pricing and staffing factors prohibit use of emergency room servces for follow-up care. This description is also true of the Catherine McCauley Health Center Walk-In Clinic.

Other providers, particularly private physicians and clinics, rely on follow-up business to sustain their practice. Ironically, such providers complain that students do not provide enough repeat business over a sustained period to justify the structural changes requisite to attracting them as clients.

Supporting Tables and Documents are found at the back of the report.

Our data indicates that students do make good repeat customers. The number of visits during the academic year (for a sample of Winter Term clients) ranged up to 46 visits, with an average of 3.89 visits since September 1982. One patient in the sample made his first visit in 1972 as an

undergraduate and continued using the service throughout his graduate studies at Eastern.

3.2 Integrating the Four Criteria for Accessibility

The precise relationship between the four criteria for accessibility is of more theoretical than practical interest. A deterministic model which ordered or weighted operative variables would prove limited in its predictive value. Students differ in the impact imposed by constraints of individual medical problems, attitudes, finances, insurance, and transportation. It is enough to say that if any of the four barriers (distance, availability, cost, follow-up) are present, the consumer will either seek other sources of care or put off seeking care until the health problem becomes too serious to ignore. In this way, each of the barriers operates somewhat independently in determining accessibility to health care.

3.3 The four criteria are different in one less than obvious respect. Two of the criteria, cost and availability of initial care, are comparatively sensitive to decision variables under management control. Rather than achieving desired objectives by eliminating cost and availability barriers (as one might seek to do in the case of a distance barrier), one would seek to optimize cost and availability to clients in the following manner.

3.3.1 Setting Optimal Costs for Users

User fees that are either too low or too high can create a barrier to health care. When user fees are too low, intake systems can be swamped with inappropriate use that cannot be accommodated without increased costs. Unrealistically low fees also fail to cover variable costs of service thus undermining the financial integrity of the program.

When user fees are too high, they create a price barrier for students and indirectly cripple ancillary areas which depend on volume activity to offset fixed costs.

Consequently, user fees must be set within a range bordered on one end by the nature of variable costs (as a minimal sorting barrier) and on the other end by the limits of price elasticity.

An analysis requisite to setting such fees was conducted as part of this study. The fixed cost/variable cost data revealed that variable revenue to the program exceeds variable costs

See Tables 3.3.1 A, B, & C

associated with the revenue. This finding has two strategic implications: 1) volume should be accelerated up to the point requiring increases in semi-variable costs, and 2) fees should remain at the level necessary to protect the program from over-utilization.

3.3.2 Setting Optimal Availability

Although increased availability might initially seem to be an objective to be maximized, such an approach would be wasteful and ill-advised. Where inadequate service levels create a barrier to care by causing unacceptable delays, overstaffing to eliminate waiting time will result in under-utilization and inefficiency.

Fortunately, the science of health care management has refined a Queing Theory which accounts for

arrival rate
service rate
number of providers

and allows the manager to set the number of service channels (physicians, nurses) based on an explicit determination of the desirable average length of queue.

See Table 3.3.2

Information is collected annually at the health center which management uses to maximize the availability of services. Success in this endeavor is reflected in overall client satisfaction. The college health center creates particular challenges in this respect due to the effects of the academic calendar on client demand.

3.4 Conclusion

Four criteria for measuring accessibility were applied to health care alternatives in an eight-mile radius of the campus. Several of the alternatives meet one or more access criteria but the on-campus program has distinct advantages for the University and the student.

Two common barriers to health care can be affected by decisions made at the campus level: cost and initial availability of service. Application of basic analytical techniques suggests that these two variables are currently within the desirable range. Only a significant shift in the relationship of fixed to variable costs, a major fluctuation in demand, or a substantial change in overall philosophy would necessitate a policy review of user fees and length of

wait. Otherwise, The Director of University Health Services is appropriately charged with adjusting such variables within the parameters associated with optimal program accessibility.

Achieving an *EQUITABLE* Distribution of Costs

Equitability requires that those who benefit from the service support it financially.

Section	Method of Analysis	Support Documents
4.1	Assemble program data on patterns of use by students.	4.1.1. (A, B,C D
4.1.1—4.1.5	Compare use to known enrollment patterns.	4.1.3. (A, B)
4.2	Develop a framework for distributing costs that responds to empirical evidence.	4.1.4. (A, B)

The Process by Which Equitability is Achieved

As greater attention is paid to the manner in which student service areas are funded within higher education, an objective and effective means for structuring student fees becomes apparent. The planning environment at the University requires that the process used for determining such fees must be perceived as reliable and valid by a wide variety of constituencies. Reliability can be enhanced by the utilization of tested analytical methods that fall within the expertise of specific faculty members and technical staff at the University. Validity can be enhanced by the involvement of key constituencies throughout the decision process, particularly at points where value related choices must be made.

The tests of reliability and validity have been successfully mastered in the setting of health center fees. The process has involved the expertise and attention of faculty experts in economics, health administration and nursing; University planning technicians, insurance specialists, and senior management personnel; and health center staff with expertise in pharmaceutical socioeconomics, nursing administration and public health. Basic and relatively sophisticated analytical methods were employed and countless hours spent compiling, organizing, and interpreting data with the help of computer based statistical packages.

The energy spent in achieving a reliable result was less than the time required to insure its validity. For nearly a year, students, faculty and staff have been discussing the merits of proposed options to the existing health center fee, and one feels certain that the process has sharpened the options and improved the final recommendations.

It is for those reasons that the approach used to achieve an equitable means of funding the health center may prove to be a model for the setting of similar distributive fees on the campus.

4.1 Findings Related to Patterns of Use

A study of the frequency and patterns of use made of the University Health Service was conducted using a random sample of 554 clients during the Winter Semester of 1983. Specific focus was given to determining "patterns of health center use attributable to differences in levels of credit hours attempted or graduate/undergraduate status".

Results of the study provide information about the population that uses the health center and when compared

Supporting Tables and Documents are found at the back of the report.

with known enrollment data, allows comparisons about health center users and the student population as a whole.

4.1.1 Student Use by Credit Hours Attempted

Students at various credit hour levels use the health center in a proportion similar to their representation in the student body. There is some increased utilization as credit hours increase but this relationship diminishes after twelve credit hours. Patterns of repeat use do not vary by credit hour level.

4.1.2 Graduate and Undergraduate Clients of the Health Center

There appears to be somewhat less utilization of the health center by graduate students than by undergraduate students. Based on the sample data, extrapolations were made regarding the total number of individual clients using the service within a given academic year. Nearly 29% of undergraduate students made direct use of the center between September and April of 1982/83. This compares with use by about 10% of all enrolled graduate students. When frequency of repeat use was studied, there were not different patterns for undergraduate and graduate students.

4.1.3 Age of Students Using the Health Center

An inspection of health center users reveals a distribution by age that is similar to the total student population, as reported in the Student Profile, published by the University Planning office. The range of ages is similar to the total population and there are no distinct patterns of frequency of use as a function of variances in client age.

4.1.4 Differences by Gender Among Health Center Users

Female students seem to be somewhat overrepresented among users of the health center. This reflects their larger numbers in the student body but may also correspond to a documented higher level of utilization by females of all types of health care.

4.1.5 Frequency Patterns and Use of Multiple Services

Comparisons of frequency patterns by credit hours attempted were made to determine if differences existed between groups at any credit hour level. There is a virtually identical pattern of repeat use for all groups. For all but one credit hour interval studied, 75% or more of the users had been

See Tables 4.1.4 A & B; Tables 4.1.3 A & B; and Tables 4.1.1 A, B, C & D

seen more than once since September 1982.

Although the data discussed thus far have been considered in terms of patient visits, the mention of "patient service contacts" should be made. A patient "visit" meant all contacts by the same person at the health center on a given date. Often these contacts relate to the same matter, but not in all cases. A "patient service contact" records the delivery of professional service by the pharmacy, laboratory, radiologist, nurse clinician or a specialist during the course of treatment. In this way differences between relatively simple and relatively complex diagnosis and treatment episodes can be determined. The average number of patient service contacts per client exceeds 7.0 but an inspection of the data reveals a significant range and variation in this measure on a client by client basis.

4.2 Developing a Framework for Distributing Costs Based on Empirical Findings

A broadly based University work group was assembled to review program data and to recommend an equitable means of distributing the fee. The group proceeded systematically to:

4.2.1 Recognize the financial implications of providing an acceptable level of health care as outlined in Section 2.0.

4.2.2 Review area health care alternatives according to their ability to meet the recognized need.

4.2.3 Determine the accessibility of such alternatives given the criteria of location, cost and availability. (Section 3.0)

4.2.4 Review the ratio of fixed to variable costs to insure the user fees are logically derived.

4.2.5 Analyze existing information and request additional information on patterns of health center use.

4.2.6 Consider a wide range of conceptual alternatives for distributing the fee including, a flat registration tax, fees that varied by graduate or undergraduate status, fees that varied by campus residence, fees for faculty and staff use, and fees that varied by credit hour. Alternatives varied widely by complexity and levels of exclusion. A microcomputer, programmed with information on

historical enrollment patterns was used to develop on-the-spot analysis of alternatives under review.

4.3 The Committee's Conclusions

4.3.1 To support a variable fee, based on credit hours attempted.

4.3.2 To place a ceiling on the full-participation amount paid by any one student. That ceiling should correspond to the plateau in utilization rate (12 credits).

4.3.3 To recommend that all on-campus students pay the fee to insure the availability of the service. The variable rate of payment is a fair means of reflecting differences in use by some part-time students.

4.3.4 To make the fee change effective with the beginning of the Fall 1983 semester.

4.3.5 To set the fee at a level determined by the existing program costs and fees derived from direct use.

4.4 Review of the Proposed Fee Framework

The committee strongly endorsed an opportunity for campus response to the proposed fee framework. While the proposal is based on empirical information on program use, it is recognized that no single approach exhausts all arguable options for the fee. Opportunities to discuss the fee with others should, in fact, increase the credibility of the process and its conclusions.

In pursuit of this objective, key campus groups were consulted prior to arriving at a set of final recommendations. Most of the advice received from such groups was compatible and in keeping with our findings and has thus been incorporated into our recommendations. The fact that some points of view were incompatible with those held by other groups is a reflection of the diverse constituent representation of the groups themselves. The Work Group carefully considered every response to its preliminary conclusions. A point-by-point review of each suggestion and addition was formally conducted. In each case, the final determination hinged on the guidance of available empirical evidence in assuring program acceptability, accessibility, and equitability.

Supporting Tables and Documents

RATIO OF THE PERCENT OF STUDENTS AT EACH CREDIT HOUR LEVEL FOR A SAMPLE OF STUDENTS THAT USED THE HEALTH CENTER AND ACTUAL ENROLLMENT DURING WINTER TERM, 1983

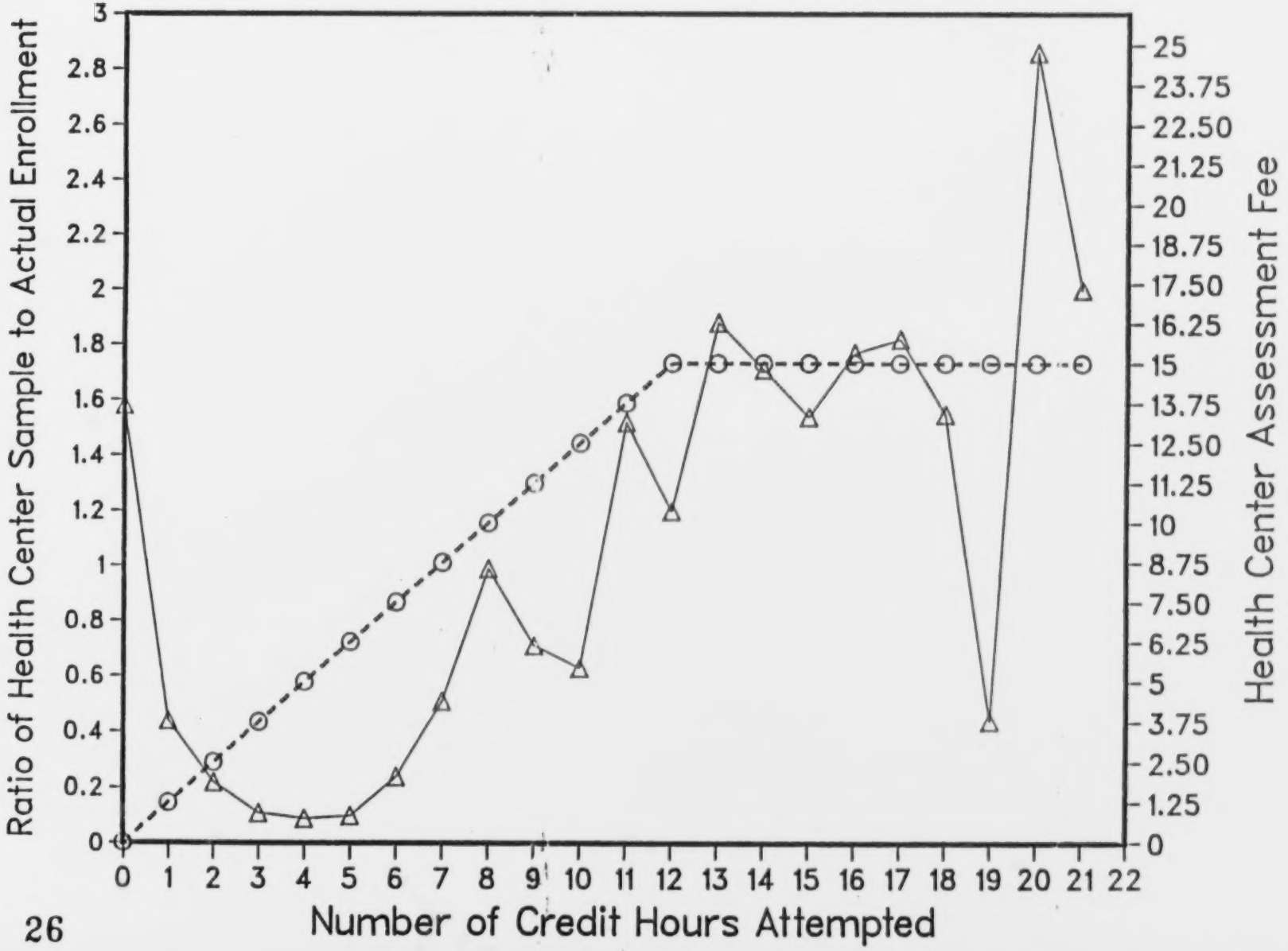

Table 1.1 (A)

Eastern Michigan University
Health Services Funding Work Group

ILLUSTRATION OF FEE DISTRIBUTION FRAMEWORK

Based on Work Group's Recommendation

Tot Studs FYr'82-83	Credits	Tot Hrs FYr'82-83	Charge Credits	Charge Hours	Fee Proj at 1.25/c	-5% Enroll Income Adj	Charge/ Student
1565	0	0	0	0	0	0	0.00
434	1	434	1	434	543	515	1.25
3479	2	6958	2	6958	8698	8263	2.50
8201	3	24603	3	24603	30754	29216	3.75
3127	4	12508	4	12508	15635	14853	5.00
1293	5	6465	5	6465	8081	7677	6.25
6632	6	39792	6	39792	49740	47253	7.50
1197	7	8379	7	8379	10474	9950	8.75
1226	8	9808	8	9808	12260	11647	10.00
2312	9	20808	9	20808	26010	24710	11.25
1003	10	10030	10	10030	12538	11911	12.50
775	11	8525	11	8525	10656	10123	13.75
5448	12	65376	12	65376	81720	77634	15.00
3010	13	39130	12	36120	45150	42893	15.00
2704	14	37856	12	32448	40560	38532	15.00
4367	15	65505	12	52404	65505	62230	15.00
2008	16	32128	12	24096	30120	28614	15.00
678	17	11526	12	8136	10170	9662	15.00
430	18	7740	12	5160	6450	6128	15.00
140	19	2660	12	1680	2100	1995	15.00
51	20	1020	12	612	765	727	15.00
35	21	735	12	420	525	499	15.00
8	22	176	12	96	120	114	15.00
11	23	253	12	132	165	157	15.00
10	24	240	12	120	150	143	15.00
0	25	0	12	0	0	0	15.00
8	26	208	12	96	120	114	15.00
50152	Total	412863		375206	469008	445557	
	Average	8.23		7.48	9.35	8.88	

Table 1.1 (B)

Eastern Michigan University

Survey of Selected University Health Services in Michigan

	Registration Fee-Health Services	Exceptions	Fees for Service	Comments
Central Michigan University	$1.56/credit per semester	None	Yes	
Eastern Michigan University	$13.50/semester - 7+ credits	None	Yes	
Ferris State College	$17.00/quarterly	None	Yes	
Grand Valley State College	None	N/A	Yes	
Michigan State University	$1.55/credit per quarter - 7+ credits $14.50 per quarter - less than 7 credits	None	No	
Michigan Technological University	$7.00/quarterly	Part-time	Yes	
Northern Michigan University	$1.70/credit per semester	None	Yes	
Oakland University	$6.00/semester - full-time Pro-rated for part-time	None	Yes	
Saginaw Valley State College	50¢/student per semester	None	Yes	Fee increase anticipated
University of Michigan	$49.50/semester	None	No	Fee increase anticipated
University of Michigan-Dearborn	None	N/A	Yes	No comprehensive health service
University of Michigan-Flint	None	N/A	No	No comprehensive health service
Western Michigan University	$33.00/semester - 5+ credits $15.30/semester - 3-4 credits $9.30/semester - 0-2 credits	None	No	Fee increase anticipated

Eastern Michigan University

Survey of Selected University
Health Services in Michigan

	Physician Charge/Visit	Other Services Available		
		Pharmacy	Laboratory	X-Ray
Central Michigan University	$ 7.00	Yes	Yes	Yes
Eastern Michigan University	$ 4.00 - F.T. $ 9.00 - P.T.	Yes	Yes	Yes
Ferris State College	$ 5.00	Yes	Limited	No
Grand Valley State College	$18.00	No	Limited	No
Michigan State University	N.C. - F.T. $20.00 - P.T.	Yes	Yes	Yes
Michigan Technological University	$10.00	No	Yes	No
Northern Michigan University	$10.00	No	Yes	No
Oakland University	$ 7.00	Limited	Yes	No
Saginaw Valley State College	$ 3.00	No	No	No
University of Michigan	N.C.	Yes	Yes	Yes
Western Michigan University	N.C.	Yes	Yes	Yes

Table 2.1.1 (A)

June 1983

COMPARISON OF ACADEMIC YEAR HEALTH SERVICE FEES FOR STUDENTS AT MICHIGAN UNIVERSITIES AND COLLEGES

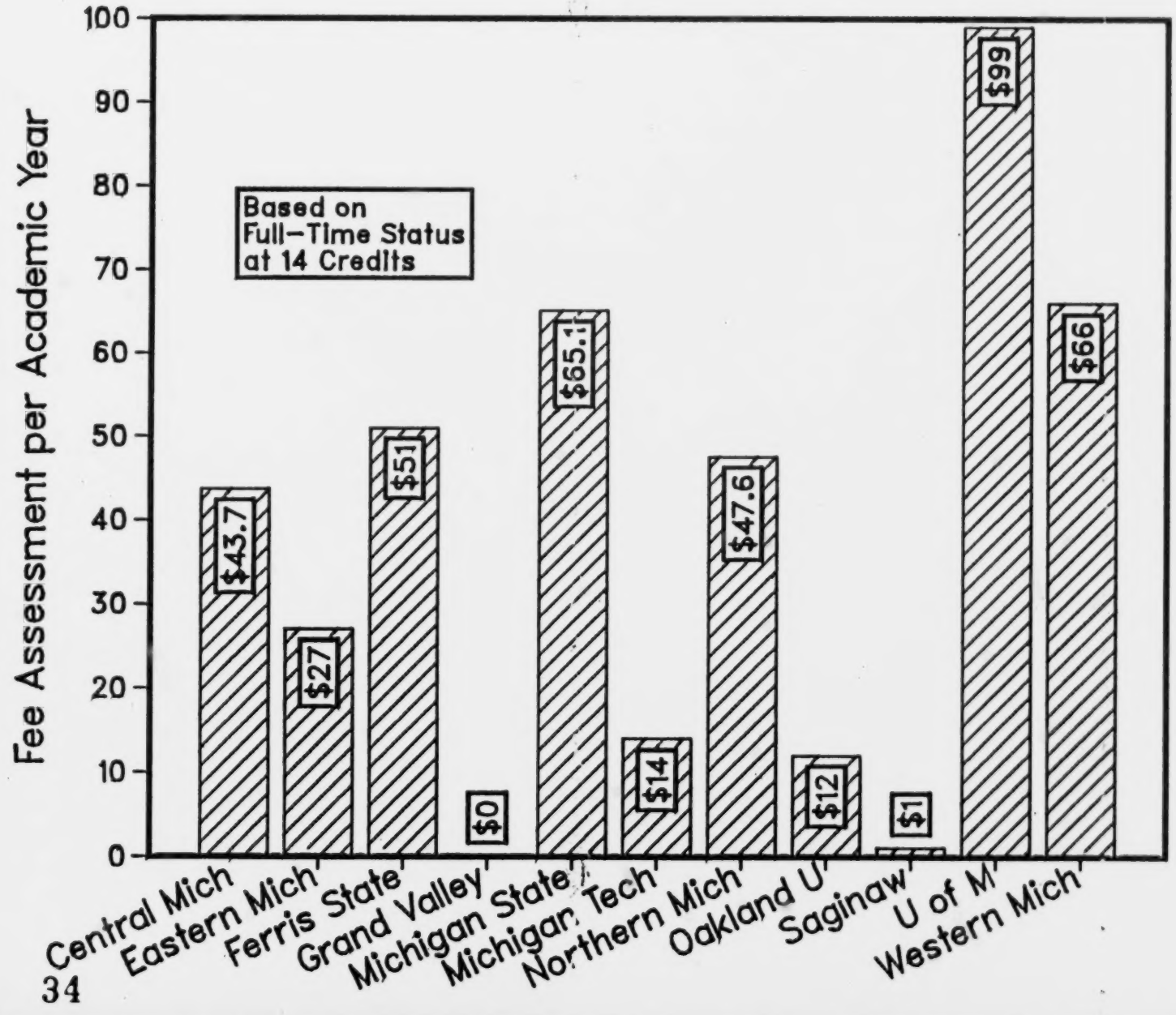

Table 2.1.1 (B)

COMPARISON OF PER VISIT COSTS FOR STUDENTS AT MICHIGAN UNIVERSITIES AND COLLEGES

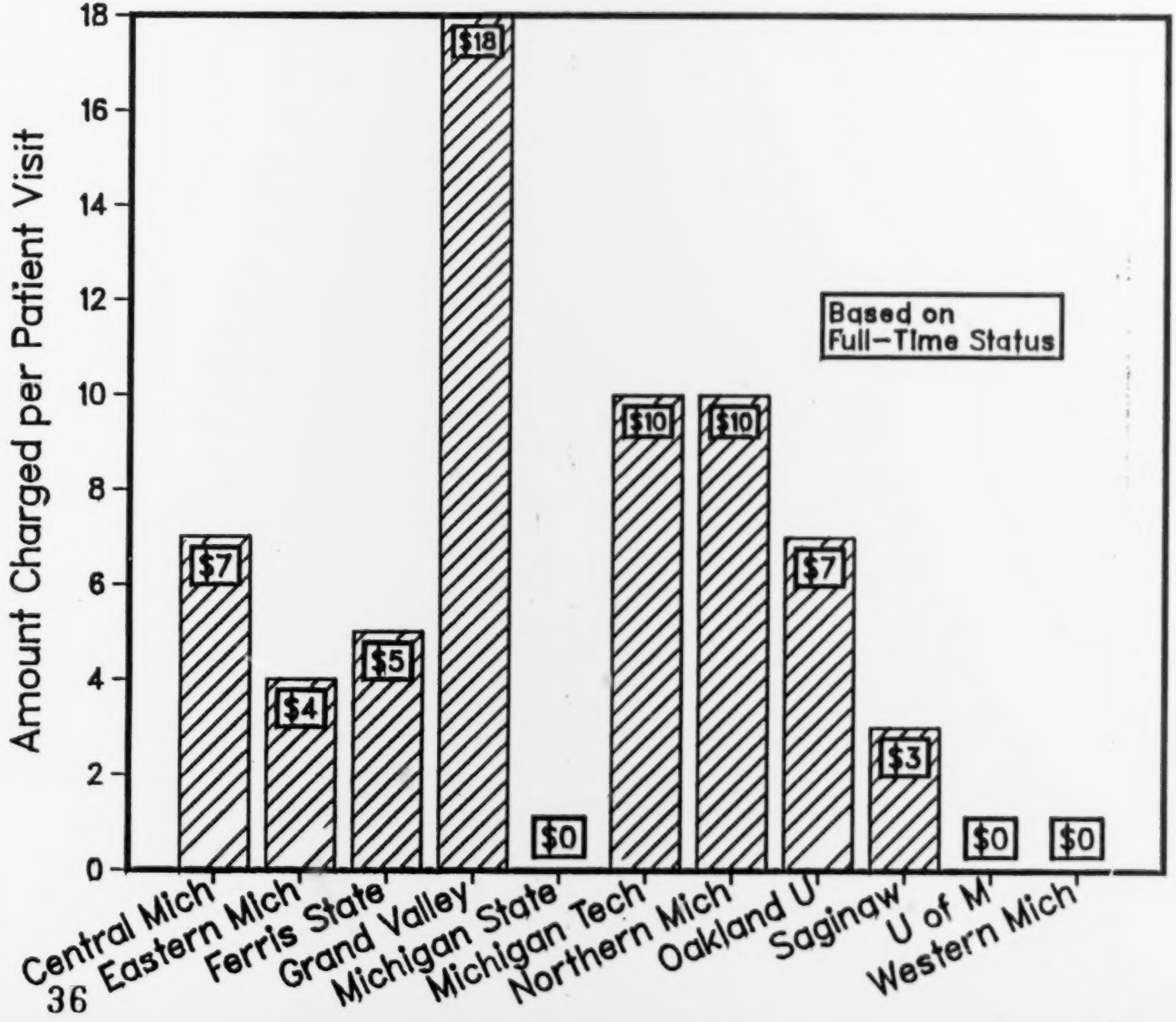

Table 2.1.1 (C)

ACT STUDENT OPINION SURVEY REPORT 11/14/81

SOS COMPARATIVE DATA NATIONAL NORMS CODE 9999 PAGE 31

SECTION II ITEM 7 (PART B). SATISFACTION WITH STUDENT HEALTH SERVICES (FOR THOSE WHO USED THE SERVICE).

		5 VERY SATISFIED	4 SATISFIED	3 NEUTRAL	2 DIS-SATISFIED	1 VERY DIS-SATISFIED	BLANK	TOTAL	SATISFACTION AVERAGE (MEAN)	EMU Satisfaction Average (MEAN)
TOTAL GROUP	N:	2819	6833	3137	2516	1343	335	16983	3.44	3.64
	%:	16.6	40.2	18.5	14.8	7.9	2.0	100.0		
PUBLIC COLLEGES	N:	1768	3685	1417	1060	528	196	8654	3.60	
	%:	20.4	42.6	16.4	12.2	6.1	2.3	100.0		
PRIVATE COLLEGE	N:	1051	3148	1720	1456	815	139	8329	3.26	
	%:	12.6	37.8	20.7	17.5	9.8	1.7	100.0		
2-YEAR COLLEGES	N:	347	642	187	85	29	52	1342	3.92	
	%:	25.9	47.8	13.9	6.3	2.2	3.9	100.0		
4-YEAR COLLEGES	N:	2385	5925	2847	2377	1286	276	15096	3.39	
	%:	15.8	39.2	18.9	15.7	8.5	1.8	100.0		
SIZE UNDER 2000	N:	1175	3243	1689	1306	707	149	8269	3.35	
	%:	14.2	39.2	20.4	15.8	8.6	1.8	100.0		
SIZE 2000-10000	N:	974	2437	1068	951	502	115	6047	3.41	
	%:	16.1	40.3	17.7	15.7	8.3	1.9	100.0		
SIZE OVER 10000	N:	670	1153	380	259	134	71	2667	3.76	
	%:	25.1	43.2	14.2	9.7	5.0	2.7	100.0		
ADM. 9/79-12/80	N:	1396	3254	1367	1081	548	150	7796	3.51	
	%:	17.9	41.7	17.5	13.9	7.0	1.9	100.0		
ADM. 1/81-9/81	N:	1423	3579	1770	1435	795	185	9187	3.38	
	%:	15.5	39.0	19.3	15.6	8.7	2.0	100.0		
MALES	N:	1163	2879	1246	912	552	151	6903	3.47	3.64
	%:	16.8	41.7	18.1	13.2	8.0	2.2	100.0		
FEMALES	N:	1649	3933	1882	1598	783	181	10026	3.41	3.64
	%:	16.4	39.2	18.8	15.9	7.8	1.8	100.0		
ALL MINORITIES	N:	381	910	440	262	157	81	2231	3.51	3.53
	%:	17.1	40.8	19.7	11.7	7.0	3.6	100.0		
FRESHMEN	N:	724	1628	775	513	256	98	3994	3.53	
	%:	18.1	40.8	19.4	12.8	6.4	2.5	100.0		
SUPHOMORES	N:	758	1794	784	671	354	74	4435	3.44	
	%:	17.1	40.5	17.7	15.1	8.0	1.7	100.0		
JUNIORS/SENIORS	N:	1179	3013	1433	1228	673	134	7660	3.37	
	%:	15.4	39.3	18.7	16.0	8.8	1.7	100.0		

Table 2.3.1

ASSUMPTIONS

1. Maintain Level of Service

   Demand levels for service and quality continue to rise and have been met through increased efficiency and productivity. As quality of service and service satisfaction have risen, the number of clients seeking care has also risen. The program has reached a point where the maximal economy of this convergence has been achieved.

2. Maintain Ability to Attract and Retain Competent Staff

   While there has been no increase in the registration ($13.50) fee or service fees over four years, modest inflationary pressures have influenced delivery costs. The health care program is labor intensive and competes internally and externally for professional services. There is no student support for compromising the level of professional competence to achieve short-term cost savings.

3. Maintain Accessibility of Program for Students

   When considering increased fees for service (physician visits, diagnostic tests, pharmaceuticals, etc.) the principle of financial accessibility should be maintained. A cost structure which presents a barrier to those seeking care is inconsistent with the goals of the program and the University.

4. Assume Increasing Overhead Costs Without Reducing Programs

   Over a period of several years, each of the auxiliary programs have assumed a greater share of general University overhead. Ultimately these expenses increase the cost of providing service and must be met through program reduction or revenue increases or a combination of the two.

5. Investigate Solutions Which Correspond to Known Program Data

   Client studies indicate similar patterns of use by full-time and part-time students, residents and commuting students. The level of student insurance coverage, the cost and availability of alternative health care, and the known repeat visit patterns should all be taken into account when weighing alternatives.

Planning Assumptions passed by Health Services Advisory Board, October 1982.

Eastern Michigan University

SURVEY OF AREA HEALTH CARE

	Distance	Appointments/ Walk-In	Initial Visit	Follow-Up
Snow Health Center	On-campus	Same day or next day Walk-ins acceptable	$4.00	$4.00, unlimited
St. Joseph's Walk-In Clinic	2 Miles	First 35 patients 3:30-7:30 p.m. only No appointments	$20.00	None Referred to private M.D. or Academic Medicine Clinic
St. Joseph's Academic Medicine Clinic	2 Miles	1-2 week wait No walk-ins	$61.00	$19.00
Packard Road Clinic	5 Miles	1-2 day wait Discourage walk-ins	$12.00-$25.00 sliding scale	3/4 of original visit fee

Table 3.1 (A)

Eastern Michigan University
SURVEY OF AREA PHYSICIANS

Area Physician	Distance	Appointments	Initial Visit	Follow-Up
A	2 Miles	2-5 Days	$47-$62	$21
B	2 Miles	4-6 Weeks	$70	$20
C	8 Miles	3 Weeks	$60-Physical $25-Problem	$20
D	6 Miles	4 Months	$65-$75	$15-$30
E	3 Miles	3 Weeks	$110	$25

Table 3.1 (B)

COMPARISON OF COSTS FOR TREATMENT OF A SORE THROAT

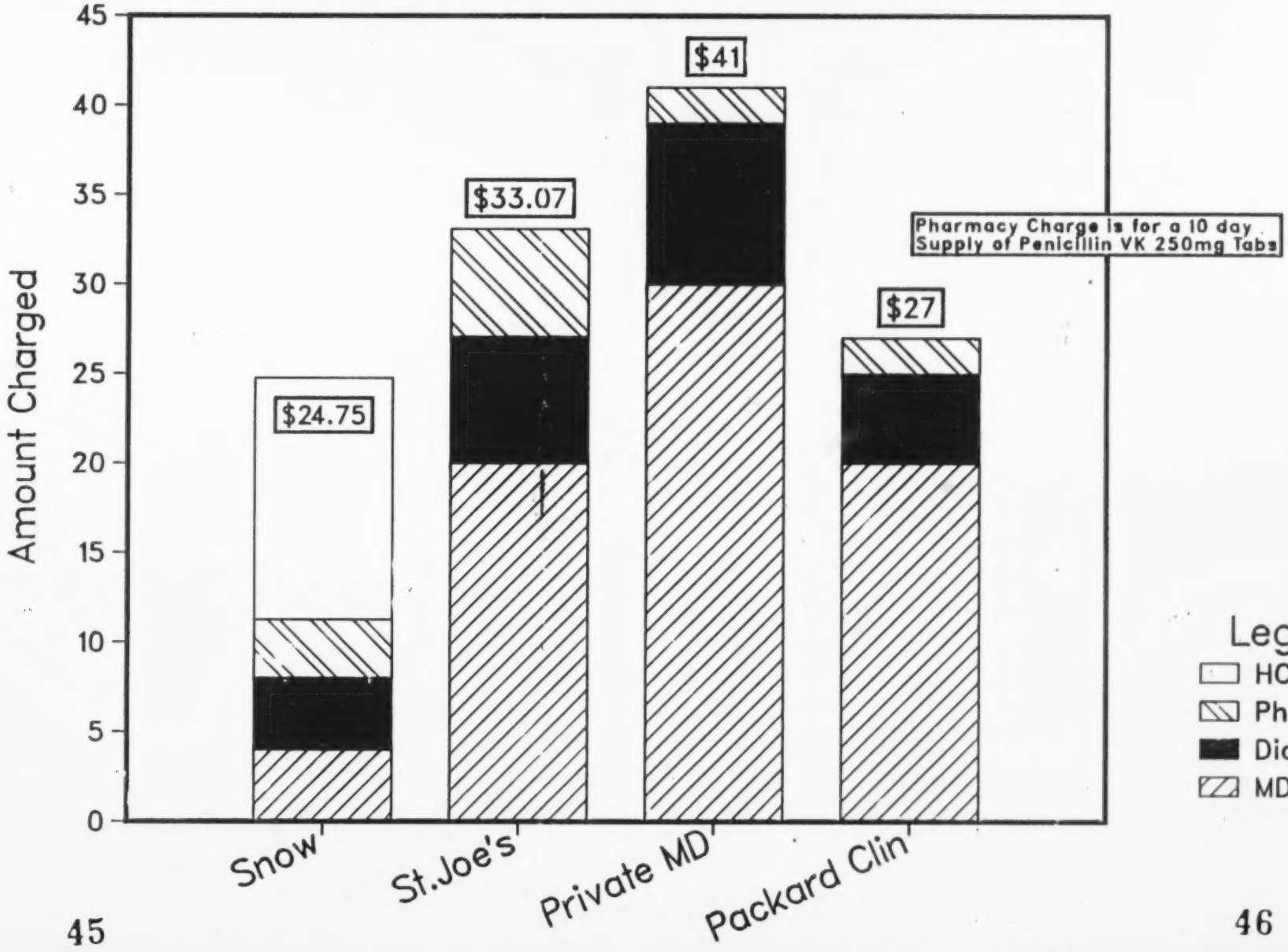

Table 3.1.3 (A)

COMPARISON OF COSTS FOR TREATMENT OF SIMPLE BRONCHITIS

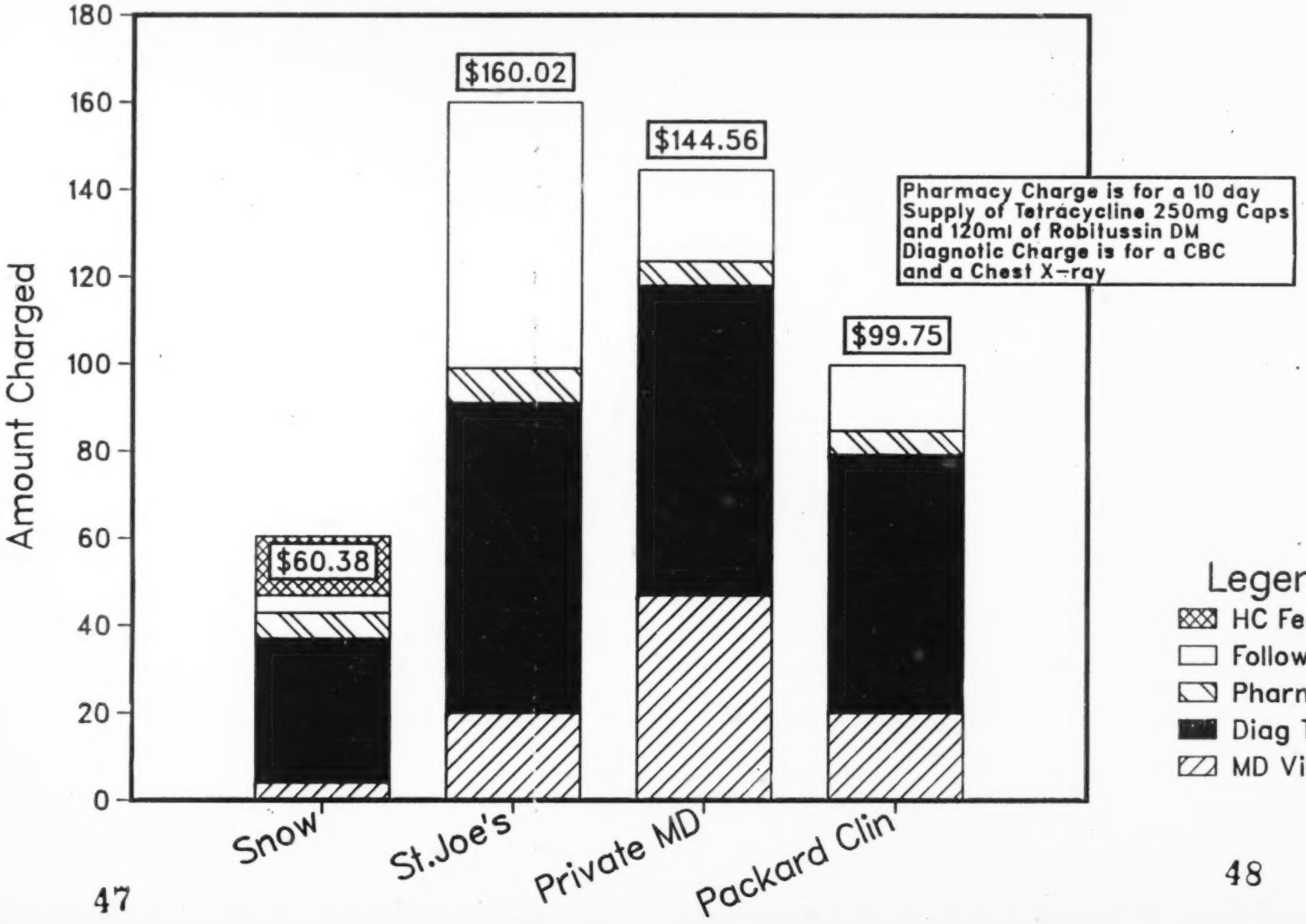

Table 3.1.3 (B)

COMPARISON OF COSTS FOR TREATMENT OF NEWLY DISCOVERED HYPERTENSION

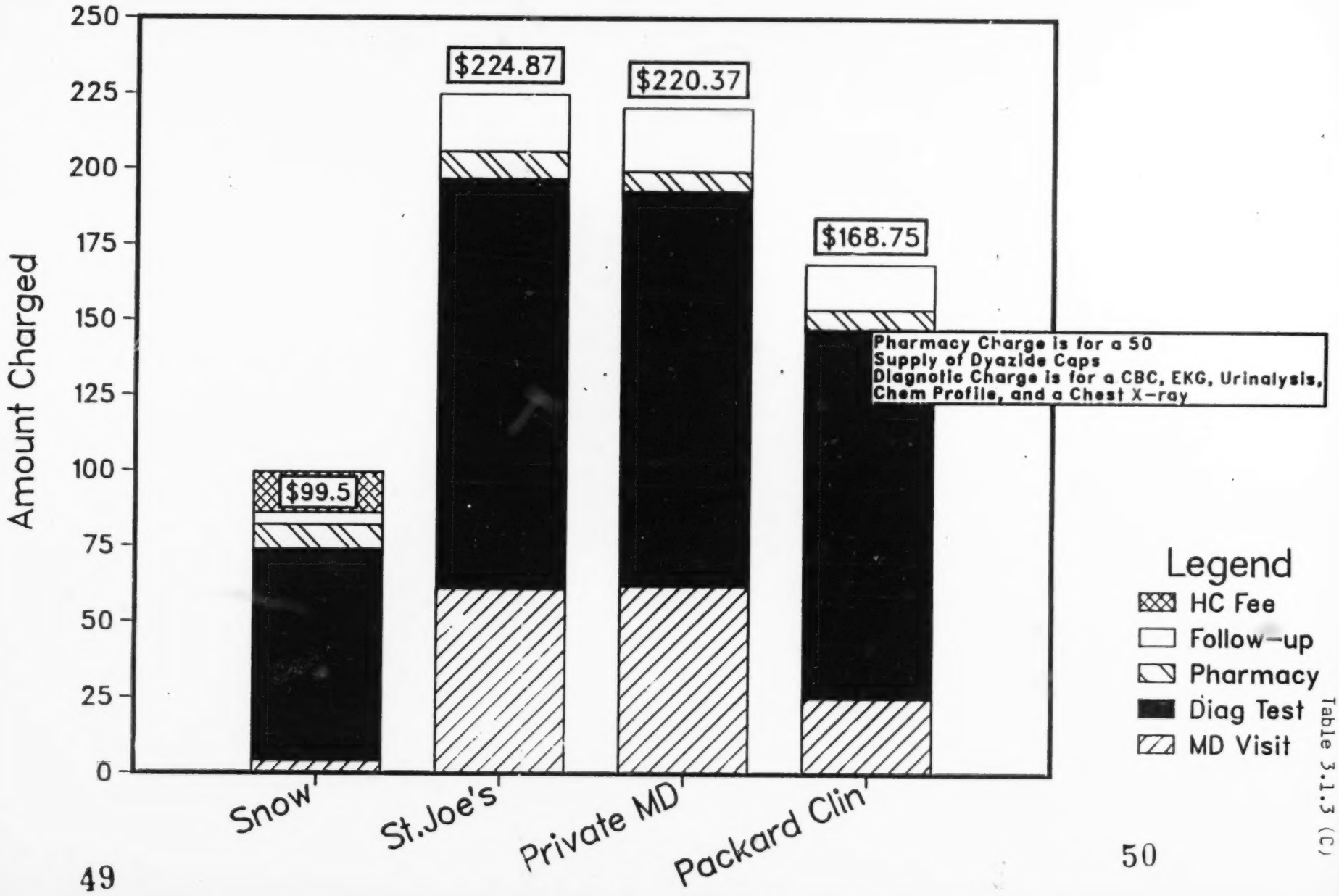

Table 3.1.3 (C)

FIXED COST/VARIABLE COST ANALYSIS
UNIVERSITY HEALTH SERVICES
EASTERN MICHIGAN UNIVERSITY

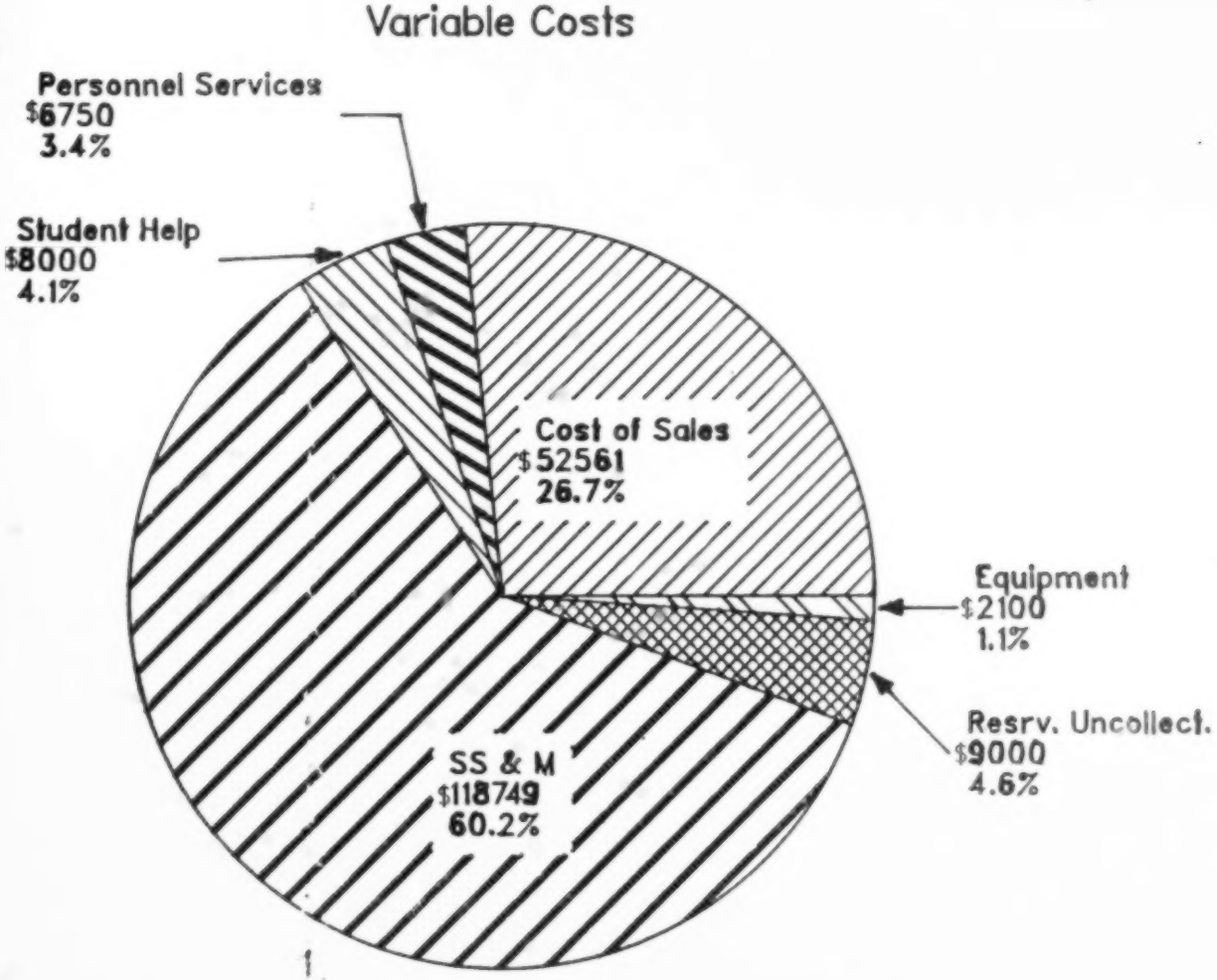

Table 3.3.1 (A)

FIXED COST/VARIABLE COST ANALYSIS
UNIVERSITY HEALTH SERVICES
EASTERN MICHIGAN UNIVERSITY

Fixed costs

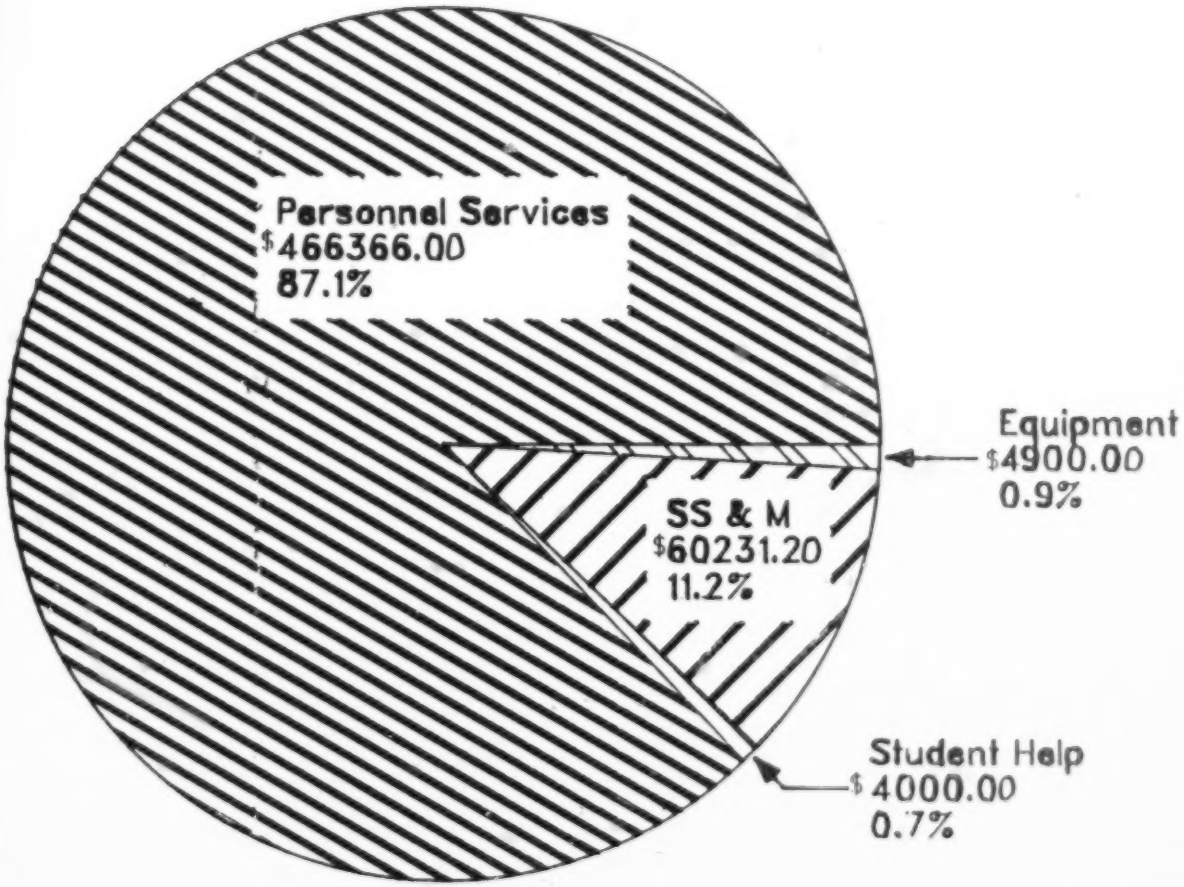

Table 3.3.1 (B)

FIXED COST/VARIABLE COST ANALYSIS

1983/84 Budget Worksheet

Budget Codes	1983/84 Budget	Percent Fixed	Amount Fixed	Percent Variable	Amount Variable
Budc 125 Investments	3000.00	1.00	3000.00	0.00	0.00
Budc 185 StudentFees	429791.00	1.00	429791.00	0.00	0.00
Budc 186 DprtmntSale	53000.00	0.00	0.00	1.06	53000.00
Budc 187 SupprtSales	94750.00	0.00	0.00	1.00	94750.00
Budc 189 DoctorsFees	48000.00	0.00	0.00	1.00	48000.00
Budc 199 OtherServcs	112327.00	0.00	0.00	1.00	112327.00
A-1 Total Revenues	740868.00		432791.00		308077.00
Budc 399 Cost/Sales	52561.00	0.00	0.00	1.00	52561.00
Budc 411 A/P Staff	247212.00	1.00	247212.00	0.00	0.00
Budc 418 Clerical	71355.00	1.00	71355.00	0.00	0.00
Budc 419 Maint&FM	27300.00	1.00	27300.00	0.00	0.00
Budc 429 Temporary	0.00	0.00	0.00	1.00	0.00
Budc 430 Overtime	0.00	0.00	0.00	1.00	0.00
Budc 440 Prorate	12490.00	1.00	12490.00	0.00	0.00
Budc 443 Longevity	2800.00	1.00	2800.00	0.00	0.00
Budc 499 Unclassfied	0.00	0.00	0.00	1.00	0.00
Budc 450 Direct FB	102959.00	1.00	102959.00	0.00	0.00
Budc 452 Other FB	9000.00	0.25	2250.00	0.75	6750.00
B-4 Total PersServ	473116.00		466366.00		6750.00
Budc 529 RegStudent	10000.00	0.20	2000.00	0.80	8000.00
Budc 536 ProrateStu	2000.00	1.00	2000.00	0.00	0.00
Budc 591 WorkStudy	0.00	0.20	0.00	0.80	0.00
B-5 Total StudHelp	12000.00		4000.00		8000.00
Budc 610 OperatSup	6600.00	0.65	4290.00	0.35	2310.00
Budc 611 Bldg Expens	0.00	1.00	0.00	0.00	0.00
Budc 613 Office Expn	9300.00	0.75	6975.00	0.25	2325.00
Budc 633 Bldg/Eq Mnt	500.00	0.90	450.00	0.10	50.00
Budc 665 ContrServcs	64081.00	0.20	12816.20	0.80	51264.80
Budc 679 Insurance	6000.00	0.60	3600.00	0.40	2400.00
Budc 695 MedSupplies	4000.00	0.60	2400.00	0.40	1600.00
Budc 697 Telephone	15000.00	1.00	15000.00	0.00	0.00
Budc 699 Unclassfied	73500.00	0.20	14700.00	0.80	58800.00
B-6 Total SS&M	178981.00		60231.20		118749.80
Budc 708 NonManTrans	0.00	1.00	0.00	0.00	0.00
Budc 750 Uncollectbl	9000.00	0.00	0.00	1.00	9000.00
B-7 Total Transfers	9000.00		0.00		9000.00
Budc 898 Equipment	7000.00	0.70	4900.00	0.30	2100.00
A-2 Total Expenses	732658.00	.730896543817	535497.20	.255113299793	186910.8
HEALTH SERVICES NET	8210.00		-102706.20		121166.20

Table 3.3.1(C)

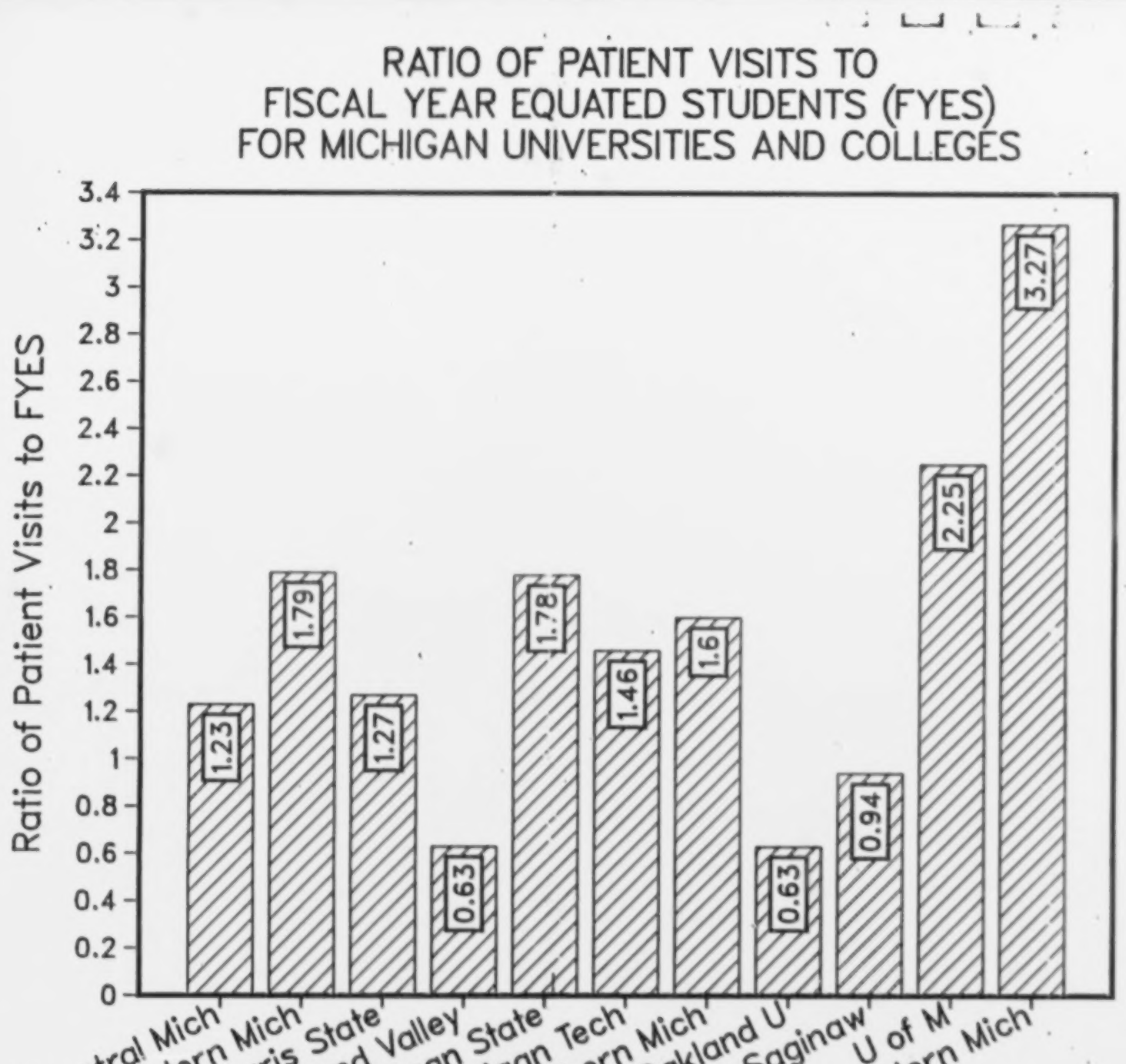
RATIO OF PATIENT VISITS TO
FISCAL YEAR EQUATED STUDENTS (FYES)
FOR MICHIGAN UNIVERSITIES AND COLLEGES
Ratio of Patient Visits to FYES
3.4
3.2
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1.23
1.79
1.27
0.63
1.78
1.46
1.6
0.63
0.94
2.25
3.27
Central Mich
Eastern Mich
Ferris State
Grand Valley
Michigan State
Michigan Tech
Northern Mich
Oakland U
Saginaw
U of M
Western Mich

Table 3.3.2

NUMBER OF CREDIT HOURS ATTEMPTED BY A SAMPLE OF STUDENTS USING THE HEALTH CENTER DURING WINTER TERM, 1983

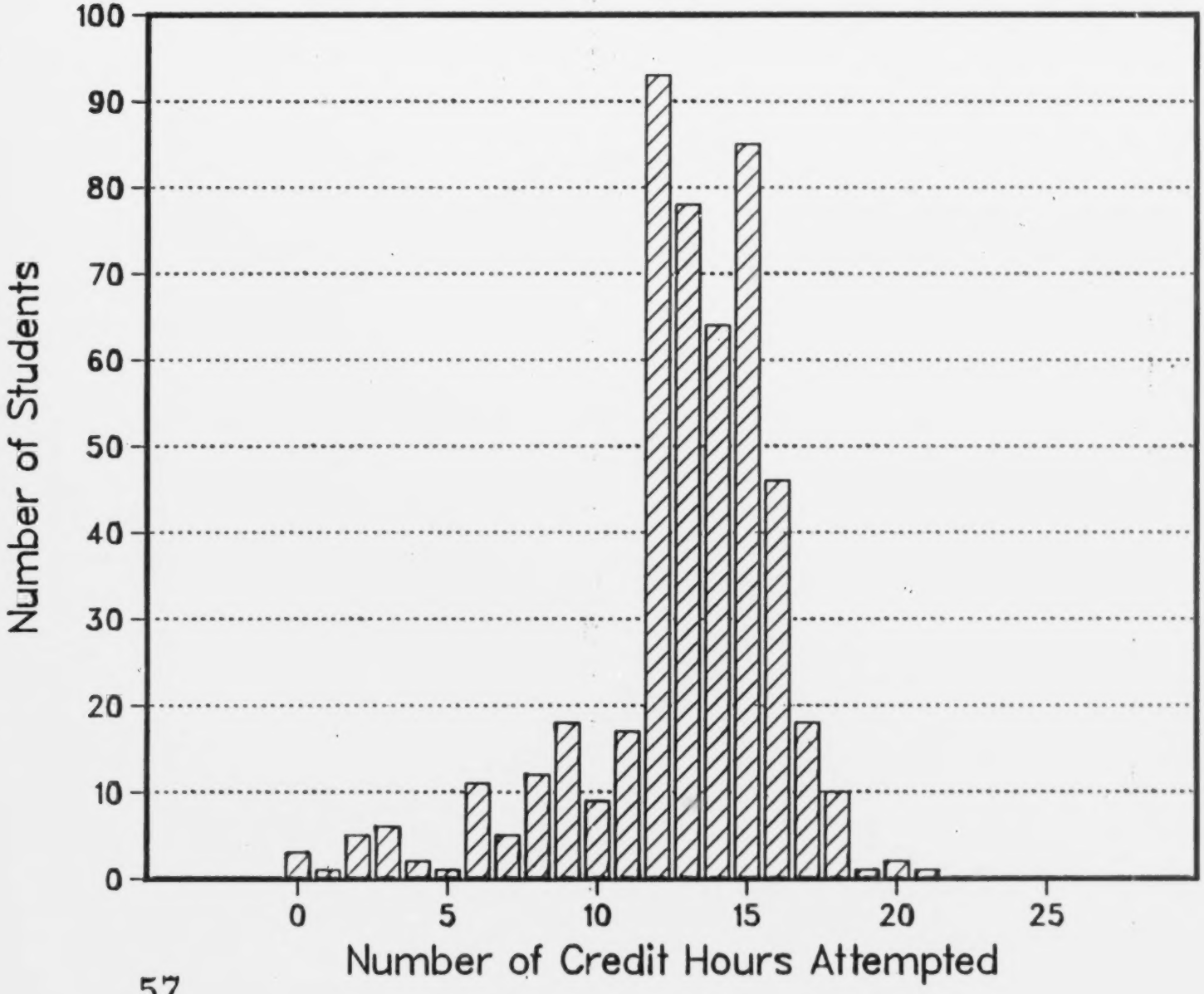

Table 4.1.1 (A)

PROPORTION OF STUDENTS AT EACH CREDIT HOUR LEVEL FOR ACTUAL ENROLLMENT DURING WINTER TERM 1983 AND FOR A SAMPLE OF STUDENTS THAT USED THE HEALTH CENTER DURING WINTER TERM, 1983

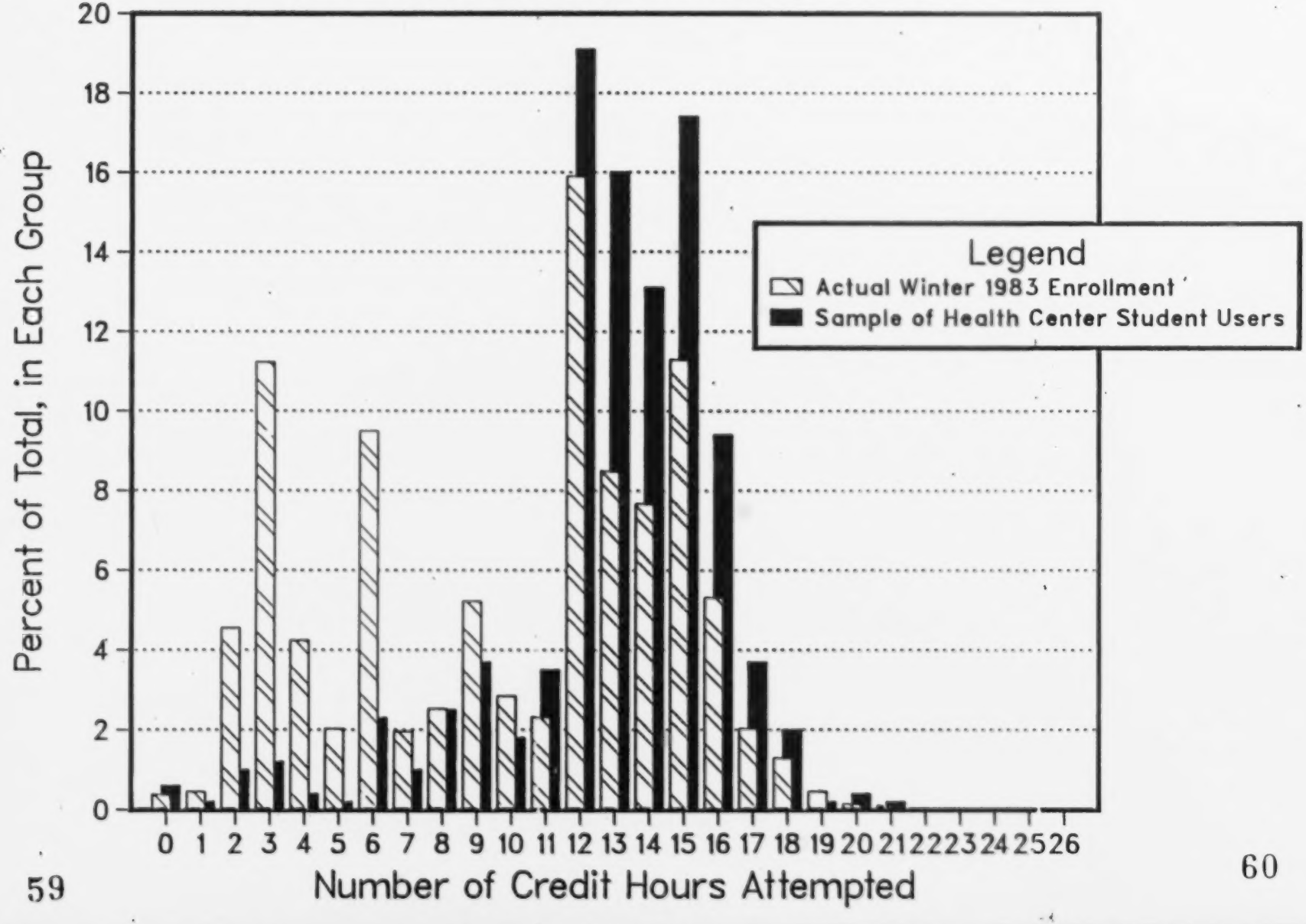

Table 4.1.1 (B)

Comparison of the Number of Credit Hours Attempted, Winter Term, 1983, and the Total Number of Visits Made to the Health Center, 9/1/82 through 4/30/83, for a Sample of Graduate Students that Used the Health Center During Winter Term, 1983

NUMBER OF CREDITS ATTEMPTED	FREQUENCY OF VISITS		TOTAL	MISSING INFORMATION
	ONE	MORE THAN ONE		
0 (zero) thru 2	4	3	7	
Percent of Total	12.9	9.7	22.6	
Percent of Row	57.1	42.9		
Percent of Column	44.4	13.6		
3 thru 5	0	2	2	
Percent of Total		6.5	6.5	
Percent of Row		100.0		
Percent of Column		9.1		
6 thru 8	3	7	10	3
Percent of Total	9.7	22.6	32.3	
Percent of Row	30.0	70.0		
Percent of Column	33.3	31.8		
9 thru 11	1	7	8	5
Percent of Total	3.2	22.6	28.5	
Percent of Row	12.5	87.5		
Percent of Column	11.1	31.8		
12 thru 14	1	3	4	1
Percent of Total	3.2	9.7	12.9	
Percent of Row	25.0	75.0		
Percent of Column	11.1	13.6		
Total	9	22	31	9
Percent of Total	29.0	71.0		

Comparison of the Number of Credit Hours Attempted, Winter Term, 1983, and the Total Number of Visits Made to the Health Center, 9/1/82 through 4/30/83, for a Sample of Undergraduate Students that Used the Health Center During Winter Term, 1983

NUMBER OF CREDITS ATTEMPTED	FREQUENCY OF VISITS		TOTAL	MISSING INFORMATION
	ONE	MORE THAN ONE		
0 (zero) thru 2	1	1	2	
Percent of Total	.3	.3	.6	
Percent of Row	50.0	50.0		
Percent of Column	1.2	.4		
3 thru 5	2	5	7	
Percent of Total	.6	1.4	1.9	
Percent of Row	28.6	71.4		
Percent of Column	2.4	1.8		
6 thru 8	2	9	11	4
Percent of Total	.6	2.5	3.0	
Percent of Row	18.2	81.8		
Percent of Column	2.4	3.2		
9 thru 11	5	22	27	4
Percent of Total	1.4	6.1	7.4	
Percent of Row	18.5	81.5		
Percent of Column	5.9	7.9		
12 thru 14	50	141	191	39
Percent of Total	13.8	38.8	52.6	
Percent of Row	26.2	73.8		
Percent of Column	58.8	50.7		
15 thru 17	24	90	114	35
Percent of Total	6.6	24.8	31.4	
Percent of Row	21.1	78.9		
Percent of Column	28.2	32.4		
18 or More	1	10	11	3
Percent of Total	.3	2.8	3.0	
Percent of Row	9.1	90.9		
Percent of Column	1.2	3.6		
Total	85	278	363	85
Percent of Total	23.4	76.6		

Histogram of Ages for Graduate Students that Used the Health Center Winter Term, 1983

MIDPOINT	HIST%	COUNT	(EACH X= 1)
23.000	2.6	1	+X
24.000	10.3	4	+XXXX
25.000	12.8	5	+XXXXX
26.000	23.1	9	+XXXXXXXXX
27.000	7.7	3	+XXX
28.000	7.7	3	+XXX
29.000	2.6	1	+X
30.000	5.1	2	+XX
31.000	7.7	3	+XXX
32.000	5.1	2	+XX
33.000	2.6	1	+X
34.000	5.1	2	+XX
. . .			
36.000	2.6	1	+X
. . .			
39.000	2.6	1	+X
. . .			
46.000	2.6	1	+X
MISSING		1	
TOTAL		40	(INTERVAL WIDTH= 1.0000)

Table 4.1.3 (A)

Histogram of Ages for Undergraduate Students Using the Health Center During Winter Term, 1983

MIDPOINT	HIST%	COUNT	(EACH X= 1)
19.000	15.1	67	+XXXX

Comparison of Student/Nonstudent Status and Sex
for a Sample of Users of the Health Center
During Winter Term, 1983

SEX	STATUS		TOTAL
	STUDENT	NONSTUDENT	
Female	341	35	376
Percent of Total	62.6	6.4	69.0
Percent of Row	90.7	9.3	
Percent of Column	68.9	70.0	
Male	154	15	169
Percent of Total	28.3	2.8	31.0
Percent of Row	91.1	8.9	
Percent of Column	31.1	30.0	
Total	495	50	545
Percent of Total	90.8	9.2	
Missing Information	8	1	9

Comparison of Sex and Graduate/Undergraduate Standing for a Sample of Students that Used the Health Center During Winter Term, 1983

SEX	STANDING		TOTAL
	GRADUATE STUDENTS	UNDERGRADUATE STUDENTS	
Female	23	312	335
Percent of Total	4.7	63.9	68.6
Percent of Row	6.9	93.1	
Percent of Column	57.5	69.6	
Male	17	136	153
Percent of Total	3.5	27.9	31.4
Percent of Row	11.1	88.9	
Percent of Column	42.5	30.4	
Total	40	448	488
Percent	8.2	91.8	